APEC-UNESCO-Tsukuba International Conference 2018

9 Feb, 2018 at the University of Tsukuba, Tokyo Campus

Conditions and constraints on the notion of a good mathematics teacher

Teacher Quality: Challenges in Mathematics Education

Theme: (a) The conceptualisation of a good mathematics teacher from a global perspective

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Abstract

In this chapter, we discuss the conditions and constraints on the notion of a good mathematics teacher.

The notion of 'good/excellent' comes from different cultural and epistemological standpoints. Therefore, any consequences may be correct. Thus, we attempt to describe something on what are/can be conditions and/or constraints on such a notion.

In the beginning, we review the 'Standards for Excellence in Teaching Mathematics (in Australian Schools)' (AAMT, 2006) as a common reference framework. AAMT Standards consist of three domains such as professional knowledge, attributes, and practice. We describe the situations of three countries, Canada, USA, and Japan, based on these domains. These perspectives are not official views of each country but from the viewpoint of each author.

Abstract
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Then, through verifying the described perspectives/discourse in the cross-cultural analysis, we clarify the conditions and constraints on excellence of mathematics teachers in each country.

As mentioned above, it is expected that what is required of 'a good mathematics teacher' could be different in diverse social and cultural demands. So, our chapter will be prospected to contribute for providing a framework for exploring 'a good mathematics teacher' in various countries and cultures.

Abstract
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Finally, we provide other perspectives from different issues in addition to these conditions and constraints. These perspectives include Study & Research Paths in the anthropological theory of the didactic as a special case of inquiry based learning, STEM Education, and Education for Sustainable Development. These issues have been particularly emphasized in recent global society. Thus, these issues likely hold expectations that may be levied upon mathematics teachers in the future and will influence the meaning of 'excellence in teaching'. These are also problems related to the curriculum beyond the notion of a good teacher.

Chapter structure

1. Introduction

Theoretical and practical background, the purpose of the chapter, and the significance to the Book.

2. Professional knowledge, attributes, and practice

The chapter is based on the 'Standards for Excellence in Teaching Mathematics (in Australian Schools)' (AAMT, 2006). In this document, there are three domains such as professional knowledge, attributes, and practice. We use these three domains as subjects of 'excellence', not criteria, in the chapter. The next section is described the considerations on these subjects from different countries and added unique perspectives of each country if necessary.

3. Different countries' perspectives on the excellence of teaching mathematics

3.1. A Canadian perspective

3.2. A U.S.A perspective

3.3. A Japanese perspective

4. On the notion of 'a good mathematics teacher'

This section describes diverse conditions and constraints on the notion of 'a good mathematics teacher' from three countries' perspectives, not describing the notion itself. The notion of 'good/excellent' comes from different cultural, epistemological standpoints. Therefore, any consequences may be correct. Thus, we describe in this section on what are/can be conditions or constraints on such a notion

5. Concluding remarks and future perspectives

The significance of this research for professional development, and other perspectives from different issues such as Study & Research Paths (SRP) in ATD as a special case of inquiry based learning, STEM Education, and Education for Sustainable Development (ESD).

Perspectives
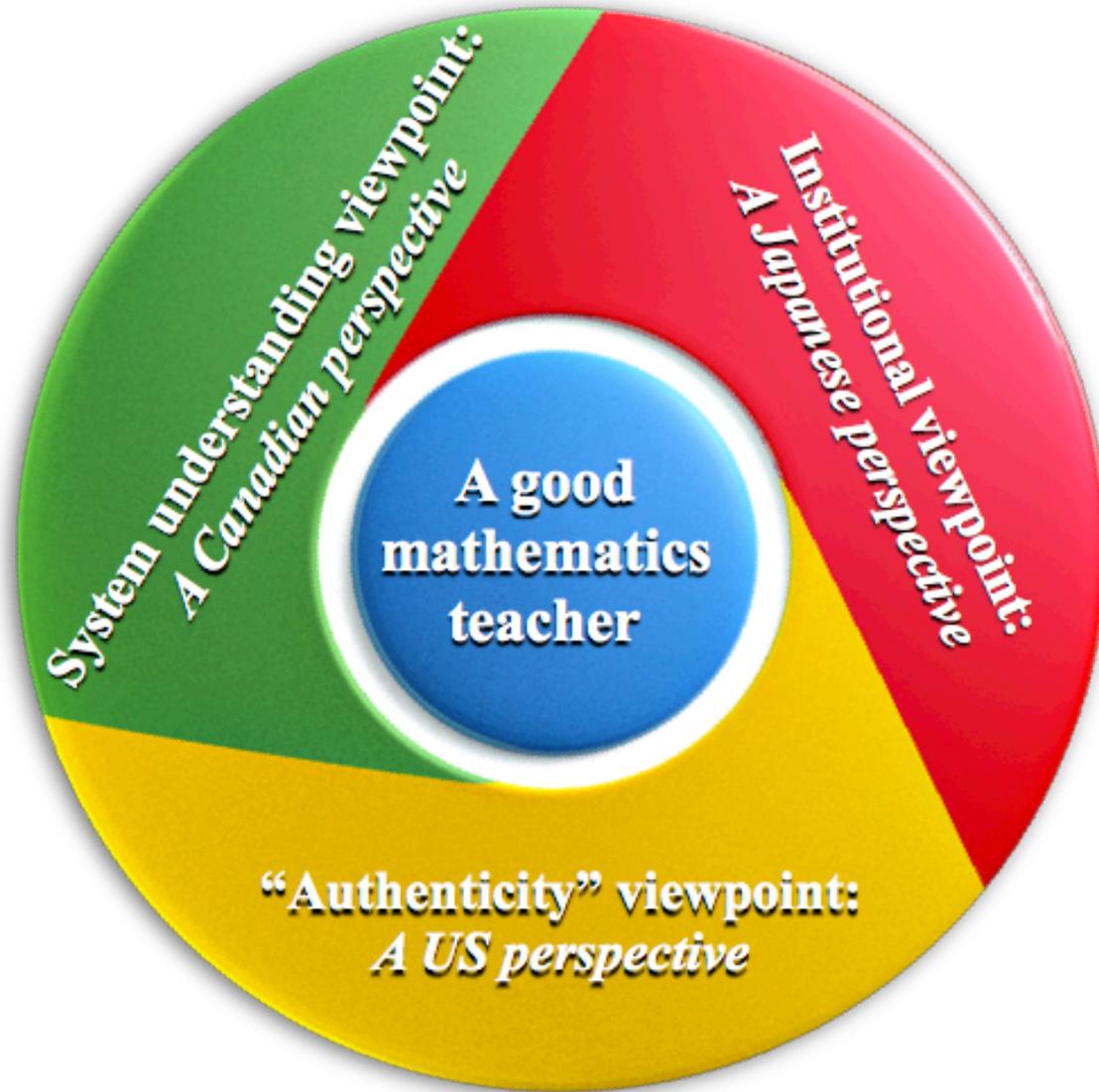
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Connection with SEARS-MT

Almost done

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